them to-day.[1] Levi ben Abraham, a little-known Proven§al scholar of the thirteenth century, whose mathematical writings are just beginning to receive the attention which they deserve, is memorable for having recognised heat as a form of motion, centuries before the days of Robert Boyle.

Here and there, throughout the course of the Middle Ages and the Renaissance, other Jewish inventors and scientists make their appearance. According to some authorities, Typsiles, who re-invented gunpowder in Augsburg in 1353, was not a Byzantine but a Jew, In anti-Semitic Venice of the fifteenth century, a certain Jew named Solomon enjoyed a high reputation as a hydraulic engineer, and was granted special privileges on that account. At the Court of Ferrara, Abraham Colorni distinguished himself as a military engineer, and devised a primitive quick-firing gun, as well as a taximeter and an instrument for measuring distances by means of reflectors. A Jewish engineer was employed to build a bridge in Brazil in 1640. Jewish mining engineers are found in Germany, Italy, even England— where, in the reign of Elizabeth, a certain Joachim Gauns, of Prague, directed smelting-works both in Cumberland and in the West Country.

Many other instances may be adduced, serving to indicate that, in the gradual, anonymous, development of technical progress before the nineteenth century, Jews collaborated with other sections of the European

population. It is not perhaps without its significance that one of the earliest chemical utensils, the *Bain Marie,* or "water-bath" of our modern chemical laboratories, is legendarily associated with the name of its hypothetical discoverer, a Jewess named Maria.

[1] It may be added at this point that in a later age the iise of sensitised paper for photography was the invention of the younger Herschei